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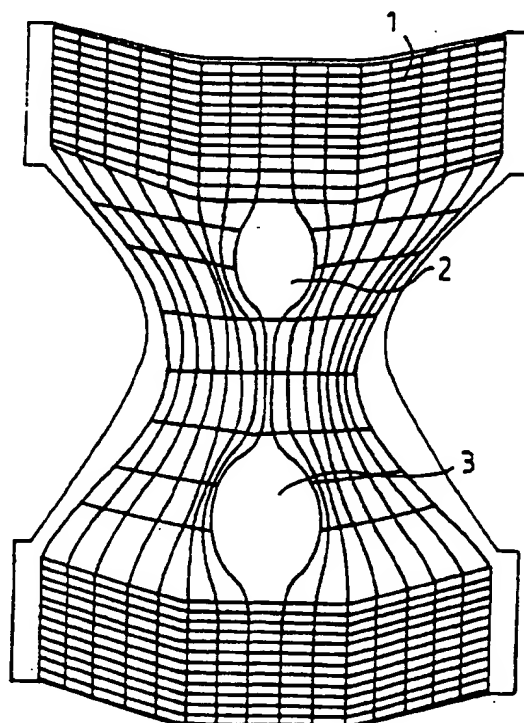
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/SE96/00119 <b>(22) International Filing Date:</b> 1 February 1996 (01.02.96)  <b>(30) Priority Data:</b> 9500385-1      2 February 1995 (02.02.95)      SE  <b>(71) Applicant (for all designated States except US):</b> MÖLNLYCKE AB [SE/SE]; S-405 03 Göteborg (SE).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> GUSTAFSSON, Anders [SE/SE]; Nyhagen 36, S-427 35 Billdal (SE). WIDLUND, Urban [SE/SE]; Pärönvägen 5, S-435 43 Mölnlycke (SE).  <b>(74) Agents:</b> PLATT, Timothy et al.; H. Albiñs Patentbyrå AB, P.O. Box 3137, S-103 62 Stockholm (SE).		<b>(81) Designated States:</b> AU, CA, CN, CZ, FI, HU, JP, MX, NO, NZ, PL, SK, TR, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

**(54) Title:** ABSORBENT PANTS PRODUCT

**(57) Abstract**

A disposable absorbent pants diaper is made up of an elastic pant with holes (3, 2) at the anus and at the urethral opening when worn. Liquid impermeable layers cover said holes and are sealed to said elastic pant around said holes thereby forming pockets (4, 5) for receiving feces and urine respectively. The pockets (4, 5) are suitably provided with absorbent and/or superabsorbent material.



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Absorbent Pants Product

The present invention relates to a disposable absorbent pants product of the type described in the preamble to the attached Claim 1. A disposable diaper product of this type is shown and described in EP-A 357 298, where an inner envelope, which may be a polyolefine sheet with perforations to allow urine to pass through, is provided with an aperture to allow feces to pass through. Said envelope is provided with elastic strands to hold it in place against the wearer's body. Outside the elasticized envelope, the diaper is provided with absorbent material and an outer jacket of liquid-impermeable material, which is attached to the inner envelope only at the waist edges and the leg edges of the diaper. When filled with urine and feces, the absorbent material and the outer jacket will hang down between the legs of the wearer, decreasing comfort and security against leakage. When the absorbent material is deformed in the narrow space between the user's legs the elasticized envelope can often be forced away from correct contact with the skin of the user, giving rise to folds and creases and leakage can then occur.

The problem of keeping a diaper in place has been approached in many different ways. Elastic side panels for example are described in EP-A 320 991. SE 425 942 describes the placement of elastic means in a V-shaped pattern to hold the liquid permeable layer of the diaper in better contact with the user's body. Neither of these known solutions is completely satisfactory as regards holding the product in place to prevent leakage and neither of them addresses the problem at all of keeping urine and feces out of contact with the user's skin.

These problems are satisfactorily solved by a disposable absorbent pants product of the type described by way of introduction, which has the features disclosed in the characterizing clause of the attached Claim 1.

By covering the holes in the elastic pant at the urethral opening and the anus pockets of liquid-impermeable material which are tightly sealed only to the portions of the elastic pant immediately surrounding said holes, movements of the absorbent material and its jacket will not affect the correct placement of the elastic pant and its two holes. The elastic pant can be designed with relatively small holes because they are held in place and kept open by the elastic properties of the pant.

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The present invention will now be described with reference to examples shown in the accompanying figures of which:

Fig. 1 shows a pant diaper according to the invention in its extended state just prior to final assembly as seen from the inside of the pant diaper,

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Fig. 2 shows the same diaper as seen from the outside,

Fig. 3 shows the same pant diaper after final assembly as worn by a child.

The pant diaper according to the invention as shown in the figures is essentially based on an elastic pant 1, which can be of the type described in our copending Swedish patent application SE 9500387-7, composed of an elastic net or film covered with substantially liquid-permeable and air-permeable, e.g. hydrophobic layers of non-woven material. The elastic pant is provided with a hole 2 which, when the pant is worn, will be placed directly at the urethral opening. The placement and size of said hole 2 may be adapted to the sex and/or age of the intended wearer. The pant is also provided with a hole 3 which will be placed directly at the anus when worn.

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As can be seen most clearly in Fig. 2, cover layers 4, 5 of liquid impermeable material such as polyethylene film or a hydrophobic non-woven fabric cover each of the holes and are sealingly fixed to the elastic pant thereby forming a pocket around each of said holes 3 and 2 respectively. According to preferred embodiments each pocket can be filled with absorbent material such as fluff pulp and/or superabsorbent

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material, for reception of feces in the back pocket 4 and urine in the front pocket 2.

5 The elastic pant is thus held snugly in place against the body of the user. When feces or urine is excreted they will pass through their respective holes, which need not be made particularly large since the elastic pant is held firmly in its proper place, and into their respective pockets. The front pocket 5 may be filled and weighted down with urine  
10 without it pulling the elastic pant out of position in contact with the user. And since the pockets are separated from each other the feces and urine will not mix which is a known advantage to prevent leakage and prevent irritation of the skin.

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Said pockets can be made of elastic material to be able to expand as they are filled with feces or urine.

## CLAIMS

1. Disposable absorbent article, such as a pants diaper,  
characterized by:  
an elastic pant provided with at least one hole at the anus  
and/or at the urethral opening when worn, and an outer liquid  
5 impermeable layer covering said hole or holes, said outer  
liquid impermeable layer covering said hole or holes (3,2)  
and being sealed to said elastic pant around said hole or  
holes thereby forming at least one pocket (5,4) for receiving  
feces and/or urine.  
10
2. Disposable absorbent articles according to Claim 1,  
characterized in that absorbent material is disposed outside  
said elastic pant, that an outer liquid impermeable layer  
covers said absorbent material, and  
15 in that said absorbent material covers said hole or holes and  
the area immediately surrounding said hole or holes, and that  
said outer impermeable layer covering said absorbent layer is  
sealed to said elastic pant only in the area immediately  
surrounding said absorbent material.  
20
3. Disposable absorbent article according to Claim 2,  
characterized in that said absorbent layer extends circa 1½-2  
centimeters beyond the periphery of the respective hole.
- 25 4. Disposable absorbent article according to one of the  
preceding claims, characterized in that said liquid-imperme-  
able cover layer is elastic.

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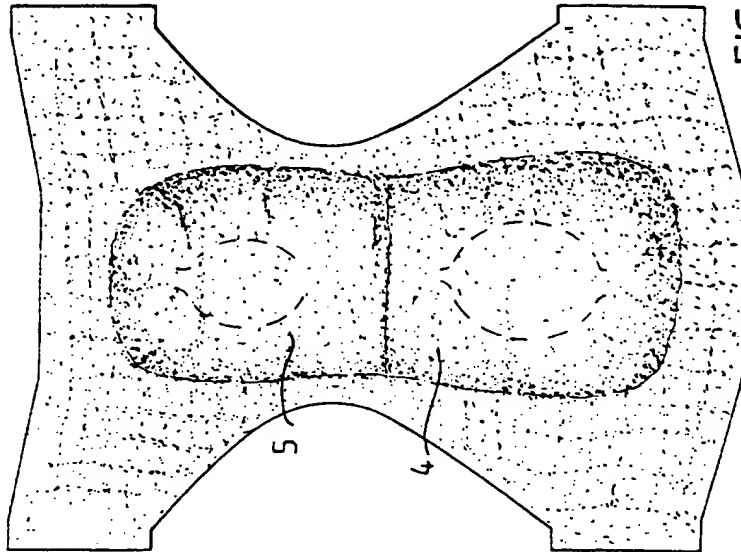


FIG. 2

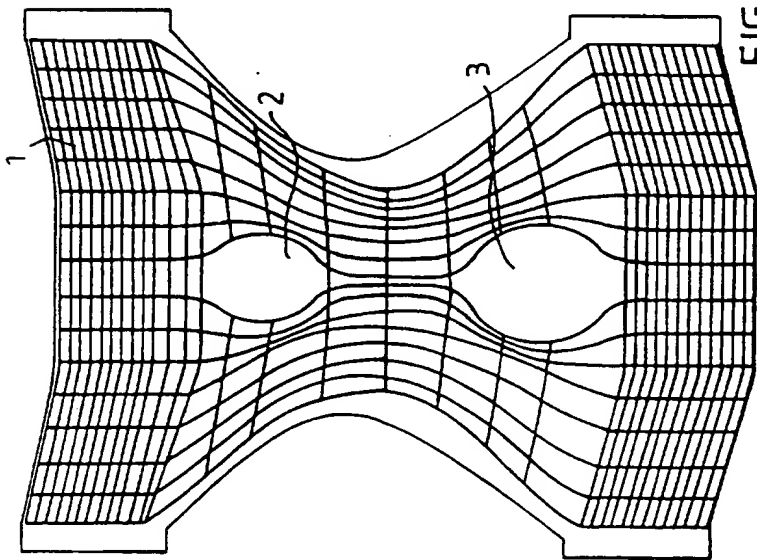


FIG. 1

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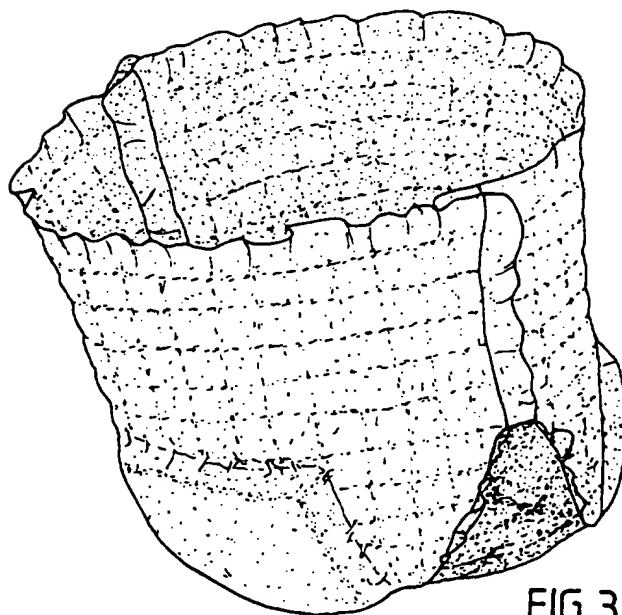


FIG. 3



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 96/00119

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC6: A61F 13/15 // A61F 13/66 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
IPC6: A61F		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
SE,DK,FI,NO classes as above		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0357298 A2 (THE PROCTER & GAMBLE COMPANY), 7 March 1990 (07.03.90), figure 3, abstract	1
Y	--	2-4
X	US 4421512 A (ELISSA D. PAPAJOHN), 20 December 1983 (20.12.83), figures 2,4	1
Y	column 1, line 17 - line 30; column 3, line 17 - line 37	2-4
Y	US 1695109 A (R. KOSLOFF), 11 December 1928 (11.12.28), page 1, line 40 - line 112, figure 1	2-4
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US-A- 4421512	20/12/83	NONE	
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